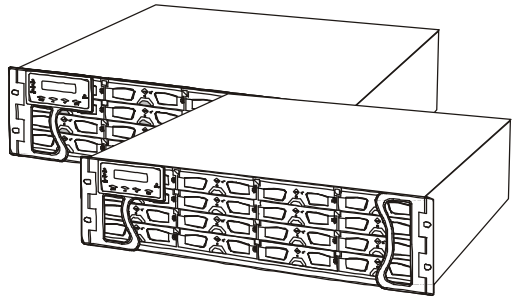
RAID Inc. FALCON III
Quick Installation Guide



Precautions

1. The system is heavy even without disks installed. At least two (2) people will be required to install the subsystem.

2. The rack cabinet into which this subsystem will be installed must support overcurrent protection and must not be overloaded by the modules installed. Other requirements, such as ventilation airflow, rack stabilizing features, electrical earth, and electrical distribution, must comply with the technical specifications listed in the documentation that came with this product.

3. System Integrators should ensure that any integrated storage solution that includes this product has been tested and proved to meet government regulations and codes for subjects including safety, fire, and electrical.

4. The FALCON III comes with a 256MB capacity or above DDR RAM DIMM module installed in its RAID controller unit.

5. The battery backup module is an optional item and is not included in this kit.

6. Make sure you have a soft, clean surface on which to place your subsystem before working on it. Placing the system on a rough surface during servicing may damage the chassis finish.

7. Do not remove any module or component item from its anti-static bag until you are ready to install it. Pick up and hold modules by their edges or canister. Avoid touching PCBs and connector pins.

8. Observe all standard ESD prevention methods, e.g., wear an anti-static wristband to prevent static electricity from damaging the electric components.

9. The FALCON III can be front- or rear-mounted in a variety of 19 inch-wide (48.26 cm) racks. The slide rail mounting kit is optional.

Installation Procedures

1. Unpacking the Subsystem
2. Hard Drive Installation
3. Drive Tray Installation
4. Subsystem Cable Connections
5. Power On
6. Install optional Battery Backup Unit (BBU) module

Pre-installed Modules

1. LCD panel
2. Front handles
3. Controller module
4. DDR RAM DIMM module
5. Cooling modules
6. Power supply units (PSUs)
7. Backplane board

Modules to be Installed

1. Hard drives
2. Drive trays
3. Power cords
4. RS-232C (audio-jack to DB9) serial cable
5. Ethernet cable(s)
6. Battery Backup Unit (BBU) (*Optional)*

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RAID Function Limitations

Feature	Options	Default Value
64-bit LBA Support (>2TB)	Yes	Yes
Number of LD	16(Max.)	16
Number of LV	8(Max.)	8
Number of Partitions per LD Number	8(Max.)	8
of LUNs per Channel ID Number of	32(Max.)	8
LUNs support Optimization mode	128(Max.)	--- Seq.
Caching mode)	Seq. I/O or Random I/O	I/O Write-
Striping size_Sequential I/O(RAID 5) Auto-	Write-Thru or Write-Back	Back
assign global spare	4/8/16/32/64/128/256KB	128KB
Optimization for Sequential mode of LD capacity	Enable/Disable	Disable
Number of media scan task scheduler	64TB(Max).	64TB
Number of host ID/LUN per channel ID	16(Max).	16
Member drives / DIMM (RAID5) of LD	32(Max).	8
	128 drives (Max). / 512MB 112 drives (Max). / 256MB	---

For more details on the Firmware, please refer to the ***Generic Operation Manual*** that came with your "***Product Utility CD***".

Power On

To power on the subsystem, follow these steps:

- **Step 1.** Install all the hardware components.
- **Step 2.** Make all the connections described above.
- **Step 3.** Power on any external connection devices (e.g., hubs and switches) Power on any external JBODs or subsystems that are connected to the SCSI port.
- **Step 4.** Power on the subsystem by turning on both power switches on the rear panel of PSU modules. For the location of the power switches, please see ***Figure 6***.
- **Step 5.** Power on the host computer(s). Please refer to the user's manual that came with your host computer for the power on procedure.

Optional Battery Backup Unit (BBU) Installation

The BBU module is an optional item that must be purchased separately. Prior to installing the BBU module, power off the subsystem or restart the subsystem after the installation. To install the BBU, please follow these instructions:

- **Step 1.** Remove the BBU slot dummy plate by loosening the two (2) retention screws located on both sides of the plate then pull it out of the chassis. (See ***Figure 8***)
- **Step 2.** Align the BBU module with the BBU module slot. Gently insert the BBU module until the back of the BBU module reaches the end of the slot. Secure the BBU module to the chassis by tightening the two (2) retention screws on the back of the BBU module. (See ***Figure 9***)

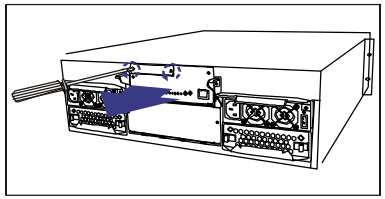


Figure 8: Removing the BBU Slot Dummy Plate

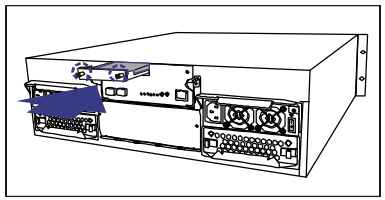


Figure 9: Installing the BBU Module

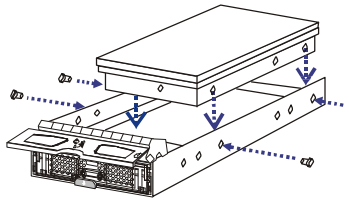
Unpacking the Subsystem

Check the included Unpacking List and verify the model name and shipping contents against the list.

Hard Drive Installation

The FALCON III subsystem supports SATA-I, and SATA-II hard drives.

- **Step 1.** Place the hard drive into the drive tray. Make sure that the hard drive is oriented in such a way that the Series ATA (SATA) connector is facing the back of the drive tray.
- **Step 2.**Adjust the drive's location until the mounting holes in the drive canister are aligned with those on the hard drive. Secure the drive with four (4) of the supplied 6/32 flat-head screws. (See ***Figure 1***)



Once the hard drives are installed into drive trays, install all sixteen (16) drive trays into the subsystem. Please refer to the drive tray installation procedures below or in the user's manual located in the product utility CD.

Drive Tray Installation

Step 1. Turn the key-lock to the unlocked position. The key-lock is unlocked if the groove on its face is in a horizontal orientation. (See ***Figure 2***)

Step 2. Open the front flap on the drive tray by pushing the button on the front of the drive tray in an upward direction. The button is easy to access. (See ***Figure 3***)

Step 3. Line the drive tray up with the slot in which you wish to insert it. Make sure that it is resting on the rails inside the enclosure, and then gently slide it in. This should be done smoothly and gently. (See ***Figure 4)***

Step 4. Close the front flap on the drive tray. Make sure the front flap is closed properly to ensure that the connector on the back of the drive tray is firmly connected to the corresponding connector on the backplane board. If the front flap is not closed properly, then the connection between the hard drive and the subsystem will not be secure. (See ***Figure 6***)

Step 5. Lock the flap in place by turning the key-lock until the groove on its face is in a vertical orientation.

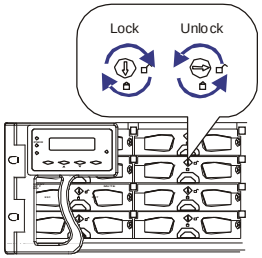


Figure 2: Drive Tray Key-Lock Rotation

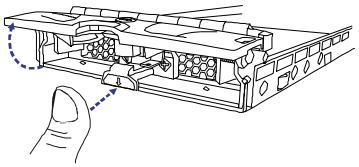


Figure 3: Opening Drive Tray Front Flap

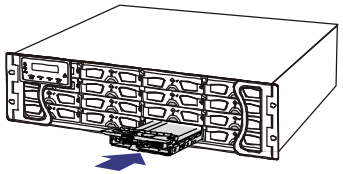


Figure 4: Installing a Drive Tray

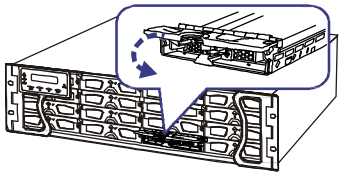


Figure 5: Closing Drive Tray Front Flap

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Subsystem Cable Connections

Power Cords

Step 1. Connect the two (2) provided power cords to the power sockets on the back of the system. (See ***Figure 6***)

Step 2. Make sure the power source is within the correct power range (100 to 240VAC) prior to powering on. Auto-ranging is supported by the power supply modules.

Step 3. Plug the other end of power cords into the power source.

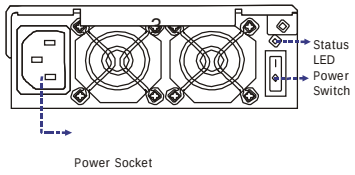

Figure 6: Power Supply Module

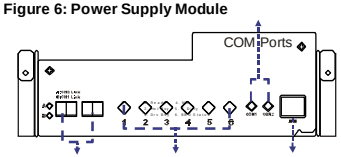

Figure 7: Controller Module Interfaces

RJ-45 Ethernet Port

After the ES subsystem has been assigned a permanent IP, a shielded Ethernet cables can be used to connect the RJ-45 Ethernet port to a hub on a network, enabling you to manage your subsystem via the web. (See ***Figure 7***)

Host Ports

The FC-to-SATA controller module come with two SFP port sockets at the rear of the controller module for host connectivity and can be seen in ***Figure 7***. Be sure to plug in SFP transceivers into the FC ports before work on cable connections.
(Details on FC cables and SFP ports can be found in Hardware Manual).

COM Ports

Each controller module comes with two (2) COM ports. The port on the left (COM1) is reserved for terminal emulation management. This port can be used to assign a permanent IP to the ES subsystem. The port on the right (COM2) is used for UPS connectivity. One (1) audio-jack to DB9 cable is provided to facilitate the connection of COM1 port. Purchase an additional cable to connect the subsystem to a UPS through the COM2 port. (See ***Figure 7***)